

**BEFORE
THE PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA**

**DOCKET NO. 2020-__-E
DOCKET NO. 2020-__-E**

IN RE:)
)
Duke Energy Carolinas, LLC's)
Establishment of Solar Choice Metering)
Tariffs Pursuant to S.C. Code Ann.)
Section 58-40-20)
)
Duke Energy Progress, LLC's)
Establishment of Solar Choice Metering)
Tariffs Pursuant to S.C. Code Ann.)
Section 58-40-20)

**JOINT APPLICATION OF DUKE
ENERGY CAROLINAS, LLC
AND DUKE ENERGY
PROGRESS, LLC FOR
APPROVAL OF SOLAR CHOICE
METERING TARIFFS**

INTRODUCTION

Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP”) (jointly referred to herein as the “Companies”) hereby respectfully make this Application to the Public Service Commission of South Carolina (the “Commission”) pursuant to S.C. Code Ann. § 58-40-20, S.C. Code Ann. Regs. §§ 103-819 and -823, and other applicable rules and regulations of the Commission in compliance with the South Carolina Energy Freedom Act—S.C. Act No. 62 of 2019 (“Act 62”). Specifically, the Companies seek Commission approval of the Companies’ proposed solar choice metering riders and rate schedules (collectively, the “Solar Choice Tariffs”) as specifically required by Act 62.

Act 62 paved the way for the next generation of net energy metering (“NEM”) in South Carolina by (i) analyzing the current NEM programs (the “Existing NEM Programs”) established pursuant to the Distributed Energy Resource Program Act (“Act 236”) and (ii) leveraging lessons learned from that analysis to build upon the next generation of NEM under Act 62. Specifically, Act 62 requires the establishment of a new NEM program (the “Solar Choice Program”) for the Companies’ South Carolina customers.

As for the analysis of Existing NEM Programs, the Commission established a generic docket in Docket No. 2019-182-E (the “Generic Docket”) to, in part, critically analyze the costs and benefits arising under the Existing NEM Programs.¹ Although the Commission has yet to hold a hearing in that docket, it is clear that the Existing NEM Programs accelerated the growth of rooftop solar in South Carolina. Indeed, Act 62 recognizes the established presence of rooftop solar in South Carolina and provides policy requirements designed to move toward a more mature

¹ The Commission is also considering whether any changes are warranted to the current methodology utilized in the Existing NEM Programs, and the Companies submitted testimony indicating that no changes should be made to that methodology at this time.

NEM program guided by market-based principles such as eliminating “any cost-shift and subsidization to the greatest extent practicable.”² Although these principles highlight the transition intended for the Solar Choice Program, Act 62 also provides the Commission with several other factors, as discussed below, that must be considered in reviewing and approving the Solar Choice Tariffs.

For the Companies, a critical part of developing Solar Choice Tariffs in accordance with Act 62 was the stakeholder participation in the workshops organized and hosted by the Companies earlier this year. The Companies organized two stakeholder workshops to encourage stakeholder participation and solicit feedback regarding the implementation of Act 62 and future NEM programs in South Carolina. Subsequent to these workshops, the Companies collaborated in good-faith with numerous stakeholders who advocated a desire to develop a common set of terms to (i) advance the next generation of NEM under Act 62, (ii) provide customers an opportunity to manage demand and reduce strain on the power grid, and (iii) ensure an advanced energy future for customers in the Companies’ service territories. This collaboration resulted in a comprehensive resolution of issues related to the Solar Choice Tariffs that is supported by the Southern Environmental Law Center on behalf of South Carolina Coastal Conservation League, Southern Alliance for Clean Energy, and Upstate Forever; Sunrun Inc.; Vote Solar; and the North Carolina Sustainable Energy Association. Subsequent to such resolution, the Companies organized a third stakeholder workshop to explain the basis and terms of the agreed upon terms and conditions, the supporting analysis, and to receive feedback and questions from the stakeholders. The Companies have also had individual meetings with stakeholders to discuss their vision of the future of solar choice to ensure that all parties were adequately informed and represented. The parties also agreed

² S.C. Code Ann. § 58-40-20(A)(3).

that the Solar Choice Tariffs would be accompanied by solar-based energy efficiency (“EE”)/demand-side management (“DSM”) programs which will start with existing DSM technologies but, in the future, will include consideration of other emerging peak load reduction technologies as they evolve.³ These programs will be the subject of other dockets in South and North Carolina, and would provide a durable path for the future of customer-sited solar in South Carolina.

Thereafter, in preparation for this proceeding and today’s filings, the parties memorialized their views for matters to be decided in this proceeding in a supporting stipulation filed simultaneously herewith (the “Stipulation”), and these terms are discussed further below.

In support of this application, the Solar Choice Tariffs, and the Stipulation, the Companies are submitting pre-filed direct testimony of the following witnesses:

- Lon Huber, Vice President for Rate Design and Strategic Solutions supporting both DEP and DEC, who provides an overview of the process by which the Companies developed the Solar Choice Tariffs (including stakeholder engagement that culminated in the Stipulation), an overview of the Solar Choice Tariffs, and how the Solar Choice Tariffs utilized best-practices to create an innovative rate structure to fulfill certain goals of Act 62.
- George Brown, General Manager of Strategy, Policy, and Strategic Investment in the Duke Energy Distributed Energy Technology group at Duke Energy Corporation, who provides an overview of Act 62 as it relates to the Solar Choice Program, a high-level description of how the Solar Choice Tariffs comply with Act 62, and the Companies’ anticipated cost-recovery mechanism under the Solar Choice Tariffs.

³ Act 62 specifically contemplates measures such as these that will contribute to "reductions in utility peak electrical demand and other drivers of electrical utility costs." S.C. Code Ann. § 58-27-845(A)(2).

- Brad Harris, Rates and Regulatory Strategy Manager at Duke Energy Corporation, who provides a description of the cost-benefit analyses performed by the Companies with regard to the Solar Choice Tariffs, an overview of the results of such analyses, and how those results compare to existing NEM programs and evidence compliance with Act 62.
- Leigh Ford, Consultant for Duke Energy Corporation, who provides an overview of the stakeholder process the Companies engaged in to solicit feedback from state and national stakeholders, including parties to the Stipulation.

Act 62 specifically requires the Commission to approve tariffs for the Solar Choice Program with an effective date of June 1, 2021. In support of the Application, the Companies respectfully show the Commission the following:

NAME AND ADDRESS

The correct name and post office address of DEC are:

Duke Energy Carolinas, LLC
Post Office Box 1321
Charlotte, NC 28201

The correct name and post office address of DEP are:

Duke Energy Progress, LLC
Post Office Box 1551
Raleigh, NC 27602

NOTICES AND COMMUNICATION

The names and addresses of the attorneys for the Companies who are authorized to receive notices and communications with respect to this application are:

Heather Shirley Smith, Deputy General Counsel
Duke Energy Business Services
40 West Broad Street, Suite 690
Greenville, South Carolina 29601
Telephone: (864) 370-5045
heather.smith@duke-energy.com

and

J. Ashley Cooper, Esquire
Parker Poe Adams & Bernstein LLP
200 Meeting Street, Suite 301
Charleston, South Carolina 29401
Telephone: (843) 727-2674
ashleycooper@parkerpoe.com

and

Marion "Will" Middleton, III, Esquire
Parker Poe Adams & Bernstein LLP
110 East Court Street, Suite 200
Greenville, South Carolina 29601
Telephone: (864) 577-6374
willmiddleton@parkerpoe.com

Copies of all pleadings, orders or correspondence in this proceeding should be served upon the attorneys listed above.

DESCRIPTION OF THE COMPANIES

The Companies are public utilities engaged in the generation, transmission, distribution, and sale of electric energy service in South Carolina and North Carolina. The Companies also sell electricity under wholesale contracts to municipal, cooperative and investor-owned electric utilities, and their wholesale sales are subject to the jurisdiction of the Federal Energy Regulatory Commission. The Companies are public utilities under the laws of South Carolina and are subject to the jurisdiction of this Commission with respect to their operations in this State. The Companies are also authorized to transact business in the State of North Carolina and are public utilities under the laws of that State. Accordingly, their operations in that State are subject to the jurisdiction of the North Carolina Utilities Commission.

BACKGROUND

I. Analysis of Existing NEM Programs in the Generic Docket

The Existing NEM Programs arise from Act 236 and were developed pursuant to a settlement agreement in Docket No. 2014-246-E between the Companies, the South Carolina Office of Regulatory Staff (“ORS”), and numerous industry participants and advocates. The Companies offered detailed testimony in the Generic Docket about the Existing NEM Programs’ success in accelerating the growth of rooftop solar in South Carolina. For example, in the Companies’ South Carolina service territories, the aggregate installed rooftop solar capacity exceeds 100 MW. Currently, these Existing NEM Programs are undergoing a careful scrutinization in the Generic Docket pursuant to S.C. Code Ann. § 58-40-20(C). Although the hearing in the Generic Docket is upcoming, the testimony filed in the Generic Docket to date reveals key findings that may inform the Commission’s development of a Solar Choice Program.

A. The Companies’ Position Regarding Cost-Shift and Subsidization Analyses Under Existing NEM Programs

The Companies’ analyses show that an unwarranted cost-shift or subsidy arises under Existing NEM Programs that would lead to non-participating members paying more than their fair share to recover the Companies’ cost to serve all ratepayers if not addressed by a new rate design for NEM customers. At a high-level, this cross-subsidization arises from the fact that rates under the Existing NEM Programs are elementary and not sufficiently aligned with the Companies’ cost to serve NEM customers, resulting in a shortfall on the Companies’ cost recovery that must be accounted for by other non-NEM customers. The Companies and certain stakeholders in the Generic Docket provided testimony indicating that unwarranted cost shift is a common occurrence under NEM programs—which is a key reason why customers under Existing NEM Programs would not provide an adequate rate of return as a separate rate class given that these costs could

not be recovered from other customers.⁴ The Companies' analysis in the Generic Docket, which was performed by the Companies' Witness Harris, specifically estimated the value of such unwarranted cost-shift or subsidy to be in the range of \$30-\$64 per customer per month, while ORS Witness Horii estimated an unwarranted cost-shift in that same range.⁵

B. Unwarranted Cost-Shift and Subsidies Primarily Arise from Elementary Rate Designs

As detailed throughout the testimony submitted in the Generic Docket, NEM customers have a significantly different usage profile than non-NEM customers, which creates an additional layer of complexity when the Companies try to recoup the costs allocated to serve NEM customers. The current rate design under the Existing NEM Programs simply does not capture this nuance because the Companies must plan and invest in their systems for NEM and non-NEM customers, but NEM customers experience lower bills on this volumetric rate because they consume fewer kWh's. ORS Witness Horii acknowledged the burden that can flow to non-NEM customers under an NEM rate structure in which the majority of fixed costs are recovered via volumetric rates by noting that "it may shift costs onto other customers within their class."⁶ Although this simplistic rate design increased the unwarranted cost-shift and subsidies borne by other customers, it provided an attractive option to NEM customers, which was in line with Act 236's desire to jump-start rooftop solar in South Carolina. However, Act 62 requires a more complex rate design and specifically requires the Commission to "eliminate any cost-shift and subsidization to the greatest extent practicable"⁷ when establishing the Solar Choice Program.

⁴ Act 62 required an analysis of NEM customers as a separate class in the Generic Docket, and the Companies' Witness Harris provided testimony in the Generic Docket as to why these customers would not provide an adequate rate of return in a separate class.

⁵ ORS Witness Horii estimated an unwarranted cost-shift of approximately \$45. Direct Testimony of Brian Horii, p. 13, lines 18-19, filed in Docket No. 2019-182-E on October 8, 2020.

⁶ Direct Testimony of Brian Horii, exhibit 2, p. 20, filed in Docket No. 2019-182-E on October 8, 2020.

⁷ S.C. Code Ann. § 58-40-20(A)(3).

C. Innovative Rate Designs Can Overwhelmingly Eliminate Unwarranted Cost-Shift and Subsidies

Not only does Act 62 seek to eliminate unwarranted cost-shift and subsidies, it also provides the Commission with a playbook to more accurately align rates with cost of service in expressly contemplating “time-variant pricing.”⁸ Indeed, various testimony was submitted in the Generic Docket that provided the Commission with a glimpse of how innovative rate structures can be utilized in the Solar Choice Program. For example, the Companies' Witness Huber provided the Companies' survey of innovative rate designs utilized in other jurisdictions to more accurately capture the cost to serve NEM customers, noting that states like Arizona, California, Georgia, Hawaii, Indiana, Louisiana, Massachusetts, Nevada, New Hampshire, New York, and Utah that have implemented innovative rate designs or rate mechanisms to account for the usage profile of NEM customers.⁹ Although this rate design can take many forms, such as demand charges, time of use rates (“TOU Rates”), minimum bills, non-bypassable charges, and grid access fees—among others—the central tenet of these rate structures is to align the rates with the cost to serve NEM customers, which is an express goal of Act 62.¹⁰ It is important to note that many of the concepts articulated in the Generic Docket further support rate design features present in the proposed tariffs and Stipulation. For example, Witness Beach, who testified on behalf of multiple parties,¹¹ described the benefits such rate structures can provide by noting that customers should be encouraged “to adopt time-of-use rates that align rates more closely to the changes in the utility’s

⁸ S.C. Code Ann. § 58-27-845(D).

⁹ Direct Testimony of Lon Huber, p. 8, line 1, through page 15, line 13, filed in Docket No. 2019-182-E on October 8, 2020.

¹⁰ S.C. Code Ann. § 58-27-845(D).

¹¹ Witness Beach testified in the Generic Docket on behalf of the South Carolina Coastal Conservation League, Southern Alliance for Clean Energy, Upstate Forever, Vote Solar, Solar Energy Industries Association, and the North Carolina Sustainable Energy Association.

cost over the course of the day.”¹² In-line with the best practices described above, Witness Beach also noted that a minimum bill component in an NEM program could provide numerous benefits, including accurately reflecting cost-causation and ensuring that “all customers make a minimum contribution to the utility infrastructure that serves them.”¹³ Finally, although not a party to the Stipulation, the Companies believe that the rate design concepts in the Solar Choice Tariffs and the Stipulation embody the principles underlying the ORS’s articulation of ideal rate design concepts in the Generic Docket. Specifically, ORS Witness Horii¹⁴ included three innovative rate structures in his “ideal” tariff outlined in the Generic Docket—flat monthly service charge, time-varying rates, and monthly demand charges.¹⁵ Although these rate structures may provide more accurate cost-benefit alignment, testimony provided in the Generic Docket indicated that certain of these benefits—such as economic impact—can be hard, if not impossible to quantify. Several witnesses in the Generic Docket noted this point, including the Companies' Witness Wright, Dominion Witness Everett, and SEIA/NCSEA Witness Barnes.¹⁶ As such, the Generic Docket provided the Commission with a broad range of mechanisms that can be utilized to address the new NEM requirements in Act 62 that simply were not present in Act 236, along with the various impacts arising from those mechanisms. Those principles are presented in the Generic Docket and provide tools for the Commission’s consideration of the Stipulation and the Solar Choice Tariffs.

¹² Direct Testimony of R. Thomas Beach, p. 28, lines 10-12, filed in Docket No. 2019-182-E on October 8, 2020.

¹³ Direct Testimony of R. Thomas Beach, p. 28, lines 21-23, filed in Docket No. 2019-182-E on October 8, 2020.

¹⁴ The Companies do not represent that the ORS is in favor of the Stipulation or tariffs being filed in this proceeding, or that the ORS has completed a review of the same, but rather the Companies wish to point out the overarching confluence of rate design principles recently articulated by a number of witnesses in filings before the Commission.

¹⁵ Direct Testimony of Brian Horii, p. 40, lines 1-16, filed in Docket No. 2019-182-E on October 8, 2020.

¹⁶ Direct Testimony of Dr. Julius A. Wright, p. 3, line 22-23, filed in Docket No. 2019-182-E on October 8, 2020 (“[I]t is difficult—at best—to identify and then precisely quantify all of the economic impacts.”); Direct Testimony of Margot Everett, p. 7, line 17-18, filed in Docket No. 2019-182-E on October 8, 2020 (“The challenge with including these types of components is that they are extremely difficult to specifically measure.”); Direct Testimony of Justin R. Barnes, p. 13, line 11, through p. 14, line 2, filed in Docket No. 2019-182-E on October 8, 2020 (“Where economic impacts are considered they may be reduced to being considered as a more qualitative ‘societal’ benefit as opposed to being translated to a ‘value rate’ denominated in \$/kWh.”).

II. Next Generation of NEM Under Act 62

Armed with the information gleaned from the Generic Docket, Act 62 also requires the Commission to establish a new generation of NEM in South Carolina under Act 62, which was signed into law by the Governor on May 16, 2019. In transitioning to the next generation of NEM, Act 62 requires that the Commission approve tariffs under the Solar Choice Program that go into effect no later than June 1, 2021. However, customers applying for NEM after the effective date of Act 62, but before June 1, 2021, may continue to participate in the Existing NEM Programs until May 31, 2029. Act 62 requires the Solar Choice Tariffs to include “a methodology to compensate customer-generators for the benefits provided by their generation to the power system,” and directs the Commission to consider the following factors when selecting an appropriate billing mechanism and energy measurement for the Solar Choice Tariffs:

- (a) current metering capability and the cost of upgrading hardware and billing systems to accomplish the provisions of the tariff;
- (b) the interaction of the tariff with time-variant rate schedules available to customer-generators and whether different measurement intervals are justified for customer-generators taking service on a time-variant rate schedule;
- (c) whether additional mitigation measures are warranted to transition existing customer-generators; and
- (d) any other information the commission deems relevant.¹⁷

These concepts—along with Act 62’s focus on eliminating unwarranted cost-shift and subsidies—were all considered by the Companies and parties to the Stipulation (the “Stipulating Parties”) when developing the Solar Choice Tariffs, and, as described above, the Companies leveraged the analysis in the Generic Docket to ensure that the Solar Choice Tariffs fulfill the language and spirit of Act 62. Below, the Companies provide each of those requirements in Act 62 and describe how the Solar Choice Tariffs achieve the same.

¹⁷ S.C. Code Ann. § 58-40-20(F)(3)(A).

SOLAR CHOICE PROGRAMS

As described above, the Companies developed the Solar Choice Tariffs in accordance with Act 62 and through a collaborative process involving the Companies and various stakeholders, culminating in the Stipulation filed simultaneously here with which evidences support for the Solar Choice Tariffs from key industry participants and clean energy advocates. The Companies look forward to testifying alongside the Stipulating Parties about the benefits of the Solar Choice Tariffs and the Stipulation proposed in these dockets, and are optimistic that the Commission will find useful the collaborative stakeholder process that went into the development of the Solar Choice Tariffs in approving the same.

In transitioning to the next generation of NEM under Act 62, there are certain core principles of the Existing NEM Programs that will remain with Solar Choice under Act 62. For example, customers will be permitted to generate power which can be consumed by such customer or supplied to the grid in the event such generation exceeds that customer's usage. Just as with the Existing NEM Programs, customers will be permitted to consume on-site what they generate to offset energy and demand that would otherwise be served by the utility to the customer. In addition, customers will be able to net surplus energy exported to the grid against energy served by the utility when the customer's on-site generation does not cover the consumption at the site.

However, as discussed above, there are certain requirements within Act 62 that require a divergence from predecessor programs under Act 236. For example, Act 62 requires the Solar Choice Programs to eliminate "any cost shift or subsidization associated with net metering to the greatest extent practicable."¹⁸ Additionally, Act 62 makes clear that the Commission must ensure that each class of service is provided a rate option that accurately aligns bill savings with the

¹⁸ S.C. Code Ann. § 58-40-20(A)(3).

corresponding reductions in the overall costs to provide such electric service, such as “time-variant pricing structures.”¹⁹ To accomplish these goals, the Companies employed a number of components that were provided in the Generic Docket as tools to align rates with the cost to serve, including TOU Rates, peak pricing, non-bypassable charges, a minimum bill, and grid access fees.

Not only were these components designed to achieve the mandates within Act 62, but they were also carefully crafted to provide economically sustainable Solar Choice Programs for the Companies’ customers—both participants and non-participants—such that the next generation of NEM programs can stand on their own without resorting to subsidies or unwarranted cost-shifts for customer-sited distributed energy resources (“DERs”) that were indicated in the Generic Docket under Existing NEM Programs. In doing so, these components necessarily work in an interrelated and symbiotic manner, meaning that even the tweaking of one component would necessitate recalculation of every other component. For example, a change in the pricing periods without a corresponding recalculation of the rates would result in either under- or over-collecting the cost to serve Solar Choice Programs customers. In the case of an under-collection of cost, the result is an unwarranted cost-shift or subsidy, which are expressly cautioned against in Act 62.

As such, the following analysis describes how the specific components of the Solar Choice Tariffs evidence a thoughtful and deliberate consideration of the principles of Act 62 and relevant provisions of South Carolina law. Below is an outline of the structure of the rider utilized under the Existing NEM Program and the Solar Choice Program Tariffs for which the Companies are seeking approval:

¹⁹ S.C. Code Ann. § 58-27-845(D).

Existing NEM Programs:

Current residential and non-residential NEM customers under Existing NEM Programs receive service under their applicable rate schedules and an NEM rider. The rate schedules detail the charges and terms of service, and the NEM rider details the terms of the NEM transaction including netting periods and any NEM-specific terms and charges.

Residential Riders and Schedules:

1) The Companies' interim Solar Choice riders (the "Interim Riders") will be available for residential customers who apply for interconnection from June 1, 2021 through December 31, 2021. Residential customers will receive service under their existing rate schedule and an Interim Rider. The Interim Riders will be very similar to the currently approved NEM rider but will include monthly netting with net exports credited at avoided cost, non-bypassables charges for costs such as energy efficiency costs, cyber security costs, storm cost recovery and similar costs, enrollment caps, and future service provisions.

2) The Companies' permanent Solar Choice riders (the "Permanent Riders") will be available for residential customers who apply for interconnection on or after January 1, 2022. Residential customers will receive service under the residential solar Time of Use ("TOU") rate schedule ("Residential Solar Rate Schedules") and the Permanent Riders (together with the Residential Solar Rate Schedules, the "Permanent Tariffs"). The Permanent Riders will be very similar to the currently approved NEM rider but will include monthly netting within TOU periods and net exports credited at avoided cost and a monthly minimum bill ("MMB").

3) The Companies' Residential Solar Rate Schedules will be available for residential customers who apply for interconnection on or after January 1, 2022. The Residential Solar Rate Schedules are the sole NEM rate schedules offered to residential customer-generators and include

TOU rates with critical peak pricing (“CPP”), a monthly grid access fee (“GAF”) for systems larger than 15 kilowatts (“kW”), and non-bypassable charges.

Non-Residential Riders:

The Companies’ non-residential Solar Choice riders (the “Non-Residential Riders”) will be available for non-residential customers who apply for interconnection on or after June 1, 2021. Non-residential customers will receive service under their existing rate schedule and a Non-Residential Rider, which will include monthly netting with net exports credited at avoided cost.

If approved by the Commission, the Interim Riders will be available to residential customers who submit an application on or after June 1, 2021, and will be followed by the Permanent Riders and Residential Solar Rate Schedules, which will be effective January 1, 2022. Additionally, the Non-Residential Riders will be available June 1, 2021. Furthermore, the basic structure of the Residential Solar Rate Schedules would not be changed for 10 years to avoid disrupting the growing market for customer scale DERs—an express mandate of Act 62 in S.C. Code Ann. § 58-40-20(A)(2)—and to provide consistency to Solar Choice customers.

I. Interim Riders

In order for the Companies to continue to offer an option for customers to adopt solar while the Companies work to switch over to a new billing system, the Companies propose an interim period during which the Companies would offer the Interim Riders for residential customer-generators. This interim period is necessary to efficiently bill the Permanent Tariffs, which would go into effect January 1, 2022. The Interim Riders are attached hereto as **Application Exhibit 1** and **Application Exhibit 2**.

As described in the Stipulation, residential Customers submitting applications from June 1, 2021, through and including December 31, 2021, may remain on their existing rate schedule

(e.g. RS, RES, R-TOUD, etc.) until May 31, 2029 and also receive service under the Interim Rider. Although customers under the Interim Riders will be allowed to stay on this structure until May 31, 2029 (the permitted transfer date under Act 62), they would also be given the opportunity to switch to a Residential Solar Rate Schedule and Permanent Rider once in effect.

Customers under Existing NEM Programs would be given the same option to transfer to a Residential Solar Rate Schedule and Permanent Rider once in effect or in 2025 (the permitted transfer date under Act 236) or in 2029 if an existing Act 62 NEM Customer. If an existing NEM customer elects not to transfer to a Residential Solar Rate Schedule and Permanent Rider by their transfer date, they can stay on the standard residential tariff, but any volumetric price increase after their transfer date will be placed in a non-bypassable charge based on the estimated total solar energy production of their system size. The solar customer would also be assessed a minimum bill set at \$10 more than the Basic Facilities Charge (“BFC”) at that time. This minimum bill would be applied in the same manner as the MMB in the Permanent Riders—meaning it would recover some portion of the Companies’ estimated customer and distribution costs. The monthly minimum bill would be reduced by the BFC, the portion of the customer’s monthly volumetric energy charges specific to such customer, and certain distribution costs.

Between June 1, 2021, and December 31, 2021, there will be a monthly cap on residential solar applications of 1.2 MW-DC for DEC and 300 kW-DC for DEP per month. If the monthly cap is reached and a customer still wants to install solar under an Interim Rider, the customer must resubmit its application the next month, but there is no assurance that capacity will be available.

II. Permanent Tariffs

As described in the Stipulation, once the interim rate period expires and the Companies implement the new billing system, the Companies will offer the Permanent Tariffs (comprised of

a Permanent Rider and Solar Residential Rate Schedule) to residential customers submitting applications for the Solar Choice Programs after December 31, 2021. The Residential Solar Rate Schedules are attached as **Application Exhibit 3** and **Application Exhibit 4** and the Permanent Riders are attached as **Application Exhibit 5** and **Application Exhibit 6**. These Permanent Tariffs were carefully developed to embody the relevant principles and guiding provisions of Act 62. Those provisions are detailed below.

A. Time-Variant Pricing

S.C. Code Ann. § 58-27-845(D), as implemented by Act 62, makes clear that the Commission:

[M]ust ensure that each electrical utility offers to each class of service a minimum of one reasonable rate option that aligns the customer's ability to achieve bill savings with long-term reductions in the overall cost the electrical utility will incur in providing electric service, including, but not limited to, time-variant pricing structures.²⁰

(emphasis added).

As such, the Residential Solar Rate Schedules utilize two types of time-variant rates—TOU Rates and critical peak pricing (“CPP”). The Companies' Witness Huber will provide testimony in this docket about the wide-ranging benefits that such rates can provide and the utilization of such rates in other states, and the Companies use the same rate structures here to achieve Act 62’s directive that “cost-shifting” and “subsidization” should be eliminated to the “greatest extent practicable.”²¹ The proposed residential rates under the Residential Solar Rate Schedules are:

²⁰ S.C. Code Ann. § 58-27-845(D).

²¹ S.C. Code Ann. §§ 58-40-20(A)(3) and 58-40-20(G)(1).

Prices including fuel clause, without Riders (c/kWh)		
	DEC SC	DEP SC
Peak	15.1760	15.843
Off-Peak	8.7586	9.529
Super-Off-Peak	6.0268	6.994
Critical Peak*	25	25

* Price for peak hours on up to 20 Company-designated Critical Price days per year

The annual on-peak period would be from 6:00 pm – 9:00 pm, with an additional winter on-peak period during the months of December through February from 6:00 am – 9:00 am. The super off-peak period will take place during the months of March through November during the times of 12:00 am – 6:00 am. During the 20 Company-designed “Critical Peak” days, the peak hours will become “Critical Peak hours.” At the Companies’ discretion, critical peak hours may be moved by one hour earlier or later to align with system needs, but the total number of Critical Peak hours will remain the same regardless of any such one-hour shift. The Companies may exceed 20 Critical Peak days per year only in the event of a system emergency. When DEC or DEP decides to designate a “Critical Peak” period, the days and hours will be posted in advance on DEC’s or DEP’s website, which will serve as the official customer communication. The Companies may supplement this notice by communicating this designation to customers via other means, which may include email and text messaging.

As described in greater detail by the Companies' Witness Huber, this innovative rate structure fulfills the requirements and spirit of Act 62 by implementing new rate-making tools from various jurisdictions in a manner that works best for the Companies’ customer and load profile. For example, the Residential Solar Rate Schedules’ TOU Rates provide a rate option which aligns that customer’s bill savings with the corresponding reduction in the utility’s cost to serve that customer by aligning peak hours with the forecasted system peaks that the Companies’ generation and transmission assets must meet. The Companies determined the TOU periods by

evaluating the forecasted 2025 combined system net load for DEP and DEC to ensure that the rates would accurately reflect the cost to serve such customers for many years to come, rather than becoming decoupled from the cost to serve in a short period of time.

Likewise, the CPP ensures that proper price signals are sent to customers and ensures cost recovery for peak periods. By designating CPP periods, the Companies can recover the fixed costs associated with generation and distribution capacity required to serve customers during system peak days. In recovering these costs, the Companies can better align rates with the cost to serve, and unwarranted cost-shifts and subsidies are reduced because the Companies are not forced to collect the costs to serve NEM customers from other non-NEM customers. In short, the proposed CPP structure will make rates more reflective of costs and play a key role in reducing cross-subsidization.

Not only do the rates in the Residential Solar Rate Schedules more closely resemble the cost to serve, but they also provide “customers with the information and ability to manage their electric bills”²²—another key tenet of Act 62. For example, the price of electricity during a CPP event is significantly higher than on-peak pricing because the actual costs incurred by the Companies to meet the energy needs of all customers during these times are also increased. However, the inverse is true during off-peak times. That is, the price of electricity is lower because the Companies’ cost of service is also lower. As such, the time-variant rate schedule, combined with the Companies’ commitment to provide customers notice of CPP events, means that customers can modify usage profiles in a way that reduces the Companies’ cost to serve such customers, and enables the customer to save money by reducing usage during the CPP events.²³

²² S.C. Code Ann. § 58-27-845(A)(3).

²³ In furtherance of the Companies’ commitment to provide information and programs upon which customers can make informed, knowledgeable decisions about their electricity usage, the Companies have proposed a demand

B. Monthly Minimum Bill and Basic Facilities Charge

Keeping with Act 62's requirements, the Residential Solar Rate Schedules implement an MMB to ensure recovery of costs related to the distribution system or costs that mainly vary based on the number of customers rather than energy usage. These costs often drive solar NEM cross-subsidizations because there is mismatch between how these costs are incurred and how they are recovered. In other words, customer-generators typically do not reduce these costs, but do reduce this component of their bill—resulting in a gap that is recovered from other customers. The Companies propose an MMB of \$30.00 for the Permanent Tariffs.

The MMB can be satisfied by the BFC, the portion of the monthly volumetric energy charges specific to customer and distribution costs, and riders. If the combination of the BFC, specific volumetric charges, and riders is less than \$30, then the MMB charge is equal to the amount of that shortfall. Any avoided cost bill credits for net exports can be used to reduce a customer's bill after the MMB has been applied.

The \$30 MMB level is derived from the unit cost study explained by the Companies' Witness Harris and ensures that the Companies more accurately recover the fixed customer and distribution costs incurred to serve these customer groups. This is yet another component within the Solar Choice Programs that, in conjunction with the other elements in the riders and schedules, ensures that the minimum costs to serve a customer will be paid by that customer, regardless of their usage.

response management component through a Winter Bring Your Own Thermostat program and will propose an Energy Efficiency ("EE") program in separate dockets in South Carolina and North Carolina. Consistent with current EE programs, the Companies will implement new programs upon receiving necessary approvals from both the Commission and the North Carolina Utilities Commission. The Companies designed the Solar Choice tariffs to allow customers the option use either program or to take simultaneous advantage of these programs together.

C. Monthly Grid Access Fee

The Residential Solar Rate Schedules also incorporate a Monthly Grid Access Fee (“GAF”) for solar facilities with a capacity greater than 15 kW-dc. The initial GAF will be applied as follows for all capacity in excess of 15 kW-dc:

- DEC GAF: \$5.86/kW - dc/month
- DEP GAF: \$3.95/kW - dc/month

Customers with large system sizes are especially likely to create cross-subsidizations as their billed kWh’s are reduced substantially. The GAF helps mitigate this risk. To design the GAF, the average maximum demand for customers with greater than 15 kW-dc systems was determined and then the distribution unit cost was applied to estimate the total distribution cost. The GAF was then set to the level that would recover this cost minus the portion already recovered through the MMB.

D. Non-Bypassable Charges

In addition to the components listed above, and as described in the Stipulation, the Interim Riders and Residential Solar Rate Schedules utilize another tool that has been deployed with success in other jurisdictions to align costs to serve with customer rates—a non-bypassable charge. The non-bypassable charges in the Interim Riders and Residential Solar Rate Schedules are designed to recover all costs related to DSM/EE, storm cost recovery, and cyber security. Non-bypassable cost recovery will be a monthly charge per kW-dc of the customer-generator’s system capacity. This rate is derived from estimating the total kWh’s bypassed per kW-dc of solar. These charges are required because, without them, program expenses and non-energy linked costs would inappropriately shift to non-solar customers.

E. Self-Consumption, Export Rates, Netting Intervals, and Billing Periods

Section 58-40-20(G)(2), as implemented by Act 62, requires the Commission to “permit solar choice customer-generators to use customer-generated energy behind the meter without penalty.” The Interim Riders and Permanent Riders continue to let customer-generators use their energy behind the meter without penalty to offset, on a 1:1 basis, energy consumed within each billing period.

In determining the appropriate mechanism and interval over which to bill these costs and measure such energy, Act 62 mandates that the Commission must consider:

- (a) current metering capability and the cost of upgrading hardware and billing systems to accomplish the provisions of the tariff;
- (b) the interaction of the tariff with time-variant rate schedules available to customer-generators and whether different measurement intervals are justified for customer-generators taking service on a time-variant rate schedule;
- (c) whether additional mitigation measures are warranted to transition existing customer-generators; and
- (d) any other information the commission deems relevant.²⁴

As such, the Companies considered the same factors in establishing the intervals and billing periods under the Solar Choice Programs. Given that the Residential Solar Rate Schedules provide a time-variant rate schedule, the Companies—pursuant to S.C. Code Ann. § 58-40-20(F)(3)(b)—considered whether the measurement intervals should differ from those under the Existing NEM Programs that do not utilize time-variant rates. As defined in the Permanent Riders, imports and exports would be netted over the month within each TOU pricing period with any net imports billed at the rate in effect for that pricing period. If there are any remaining net exports at the end of the month, Solar Choice Program customers will be credited for any net exports at an annualized rate (weighted average rate for all hours assuming a fixed block of energy) for avoided

²⁴ S.C. Code Ann. § 58-40-20(F)(3)(a)-(d).

energy cost as specified by the per kWh rates at the Companies' Commission-approved avoided cost rates.²⁵ However, during CPP designated hours, the CPP rate applies to all imports during the designated CPP hours, and any energy exports during the CPP hours will be netted against non-CPP peak imports, not the Critical Peak imports.

III. Non-residential Customer-Generators

Non-residential customer-generators applying for interconnection after June 1, 2021 are also eligible for solar choice. Non-residential customers under the Solar Choice Program would be served under their existing rate schedule and the Non-Residential Riders, which will include monthly netting with net exports credited at avoided cost. Monthly net exports will be applied as a bill credit at the same rate as residential customer-generators. The Non-Residential Riders are included as **Application Exhibit 7** and **Application Exhibit 8**.

IV. Cost Recovery

The Solar Choice Tariffs credit net exports at the avoided cost rate. As an NEM avoided cost, the Companies believe this cost is appropriate for collection through annual fuel proceedings, consistent with the historic treatment under Act 236.

REQUEST FOR APPROVAL

As evidenced by the Companies' testimony filed in the Generic Docket and described in this Application and the Stipulation, the components and rate structures of the Solar Choice Tariffs, as a whole, work in conjunction, to fulfill the ultimate goal of Act 62 as it relates to NEM by eliminating "any cost shift or subsidization associated with net metering to the greatest extent practicable."²⁶ Additionally, the TOU Rates in conjunction with the MMB, GAF, and BFC, work

²⁵ The Companies' Commission-approved avoided cost rates are defined in and charges in Schedule PP - Purchased Power for DEC)and SC Schedule PP – Purchased Power for DEP.

²⁶ S.C. Code Ann. § 58-40-20(A)(3).

together to ensure that the Companies appropriately recover the cost to serve NEM customers—despite the usage profile of these customers—which results in an overall benefit to their systems and non-NEM customers. The Solar Choice Programs reflect a many-months'-long stakeholder process by which the Companies engaged leaders in the clean energy market to ensure that the Solar Choice Programs, as evidenced by the Stipulation filed in this proceeding, build upon the successful deployment of solar generating capacity under Act 236 in a way that benefits all parties.

As such, the Companies respectfully request that the Commission, pursuant to this Application, the Stipulation, and in compliance with the requirements of S.C. Code Ann. § 58-40-20, approve the following riders and rate schedules as included in **Application Exhibit 1** through **Application Exhibit 8**, along with any further relief the Commission deems to be just and reasonable and in the public interest:

1. Duke Energy Progress, LLC's Interim Rider (Rider IRSC-1);
2. Duke Energy Carolinas, LLC's Interim Rider (Rider IRSC (SC));
3. Duke Energy Progress, LLC's Permanent Rider (Rider RSC-1);
4. Duke Energy Carolinas, LLC's Permanent Rider (Rider RSC (SC));
5. Duke Energy Progress, LLC's Residential Solar Rate Schedule (Schedule R-STOU-61);
6. Duke Energy Carolinas, LLC's Residential Solar Rate Schedule (Schedule R-STOU (SC));
7. Duke Energy Progress, LLC's Non-Residential Rider (Rider NSC-1); and
8. Duke Energy Carolinas, LLC's Non-Residential Rider (Rider NSC (SC)).

Respectfully submitted this 2nd day of November, 2020.



Heather Shirley Smith
Duke Energy Corporation
40 West Broad Street, Suite 690
Greenville, South Carolina 29601

J. Ashley Cooper, Esquire
Parker Poe Adams & Bernstein LLP
200 Meeting Street, Suite 301
Charleston, South Carolina 29401
Telephone: (843) 727-2674
ashleycooper@parkerpoe.com

Marion "Will" Middleton, III, Esquire
Parker Poe Adams & Bernstein LLP
110 East Court Street, Suite 200
Greenville, South Carolina 29601
Telephone: (864) 577-6374
willmiddleton@parkerpoe.com

*Counsel for Duke Energy Carolinas, LLC and Duke
Energy Progress, LLC*

INTERIM RESIDENTIAL SOLAR CHOICE
RIDER IRSC-1AVAILABILITY

Available to residential Customers receiving concurrent service from the Company, on a metered rate schedule, except as indicated under General Provisions. A Customer-Generator is an owner, operator, or lessee of an electric generation unit that generates or discharges electricity from a renewable energy resource, including an energy storage device configured to receive electrical charge solely from an onsite renewable energy resource. The renewable net energy metered (NEM) generation, which includes a solar photovoltaic; solar thermal; wind powered; hydroelectric; geothermal; tidal or wave energy; recycling resource; hydrogen fueled or combined heat and power derived from renewable resources; or biomass fueled generation source of energy, is installed on the Customer's side of the delivery point, for the Customer's own use, interconnected with and operated in parallel with the Company's system. The generation must be located at a single premise owned, operated, leased or otherwise controlled by the Customer. The system may either be owned by the Customer or by a lessor and leased to the Customer.

Service under this Rider is closed to new participants on and after January 1, 2022. Residential Customers served under this Rider from June 1, 2021, through and including December 31, 2021, may be served under their existing approved rate schedule until May 31, 2029. Beginning January 1, 2022, residential Customers served under this Rider prior to January 1, 2022 may elect to transfer to Residential Solar Choice Rider RSC and be served under rate schedule Residential Service, Solar Time-of-Use (R-STOU).

There is a monthly cap for service under this Rider of 300 kW per month. A Customer who applies after the monthly cap is reached must withdraw the application and submit it again in a subsequent month, but there is no assurance that capacity will be available.

GENERAL PROVISIONS

1. To qualify for service under this Rider, the Customer must comply with all applicable interconnection standards and must provide, in writing, the Nameplate Capacity of the Customer's installed renewable generation system. Any subsequent change to the Nameplate Capacity must be provided by Customer to Company in writing by no later than 60 days following the change.
2. To qualify for service under this Rider, a Customer must be served on an existing approved residential rate schedule (e.g. RES, R-TOUD, etc.). Customers served under this Rider may not be served under another parallel generation rider. The Nameplate Capacity of Customer's installed generation system and equipment must not exceed 20 kW AC.
3. Beginning June 1, 2029, if a Customer does not elect to be served on Schedule R-STOU, the Customer may stay on their existing approved residential rate schedule, but any volumetric price increase thereafter will be assessed through a monthly non-bypassable charge based on the Customer's Nameplate Capacity.
4. If the Customer is not the owner of the premises receiving electric service from the Company, the Company shall have the right to require that the owner of the premises give satisfactory written approval of the Customer's request for service under this Rider.
5. All environmental attributes, including but not limited to "renewable energy certificates" (RECs), "renewable energy credits" or "green tags", associated with the generation system shall be conveyed to Company. The Customer certifies that the environmental attributes have not and will not be remarketed or otherwise resold for any purpose, including another distributed energy resource standard or voluntary purchase of renewable energy certificates in South Carolina or in any other state or country for the Contract Period and any successive contract periods thereto.

6. If the electricity supplied to the Customer by the Company exceeds the electricity delivered to the grid by the Customer-Generator during a monthly billing period, the Customer-Generator shall be billed for the net electricity in kilowatt-hours (kWh) supplied by the Company plus any demand or other charges under the applicable rate schedule or riders.
7. If the electricity delivered to the grid by the Customer-Generator exceeds the electricity supplied by the Company during a monthly billing period, the Customer-Generator shall be credited for the net excess energy in kWh generated during that billing period.
8. In the event the Company determines that it is necessary to increase the capacity of facilities beyond those required to serve the Customer's electrical requirement or to install a dedicated transformer or other equipment to protect the safety and adequacy of electric service provided to other customers, the Customer shall pay the estimated cost of the required transformer or other equipment above the estimated cost which the Company would otherwise have normally incurred to serve the Customer's electrical requirement, in advance of receiving service under this Rider.

RATE

All provisions of the applicable schedule and other applicable riders will apply to service supplied under this Rider, except as modified herein. In addition to all charges in the applicable rate schedule for Customer's net electrical usage, the following credit will be applied to net electricity delivered to the grid by Customer's renewable generation as specified under General Provisions:

Monthly Credit for Net Excess Energy, per kWh	\$0.0230
---	----------

In addition, the following non-bypassable charge will be added:

Non-bypassable Charge per month, per kW ¹	\$0.58
--	--------

MINIMUM BILL

From June 1, 2021 through May 31, 2029, the monthly minimum bill for Customers receiving service under this Rider shall be no less than the Basic Facilities Charge from the Customer's rate schedule and riders plus, if applicable, any additional minimum bill provisions specified by the Customer's rate schedule and riders.

Beginning June 1, 2029, Customers who enrolled for service under this Rider and do not elect to be served on Schedule R-STOU will be assessed a monthly non-bypassable charge based on their Nameplate Capacity for any volumetric price increase thereafter. These Customers will also be assessed a monthly minimum bill set at \$10 more than the Basic Facilities Charge at that time. The minimum bill may be satisfied by the Basic Facilities Charge, the portion of the customer's monthly volumetric energy charges specific to customer and distribution costs (as included in Schedule R-STOU), and riders.

Bill credits for net excess energy are not included in the calculation of the minimum bill charge. Bill credits will reduce a Customer's total bill after the minimum bill charge has been applied.

METERING REQUIREMENTS

The Company will furnish, install, own and maintain a billing meter to measure the kilowatt demand delivered by the Company to the Customer, and to measure the net kWh purchased by the Customer or delivered to the Company. For renewable generation capacity of 20 kW AC or less, the billing meter will be a single, bi-directional meter which records independently the net flow of electricity in each direction through the meter, unless the Customer's overall electrical requirement merits a different meter. The Customer grants the Company the right to install, operate, and monitor special equipment to measure the Customer's generating system output, or any part thereof, and to obtain any other data necessary to determine the operating characteristics and effects of the installation. All metering shall be at a location that is readily accessible by the Company.

¹ The Non-bypassable Charge is applied per kW DC for solar generation and per kW AC for non-solar generation.

SAFETY, INTERCONNECTION AND INSPECTION REQUIREMENTS

This Rider is only applicable for installed renewable generation systems and equipment that complies with and meets all safety, performance, interconnection, and reliability standards established by the Commission, the National Electric Code, the National Electrical Safety Code, the Institute of Electrical and Electronic Engineers, Underwriter's Laboratories, the Federal Energy Regulatory Commission and any local governing authorities. Customer must comply with all liability insurance requirements of the Interconnection Standard.

POWER FACTOR

The Customer's renewable generation must be operated to maintain a 100% power factor, unless otherwise specified by Company. When the average monthly power factor of the power supplied by the Customer to the Company is other than 100%, the Low Power Factor Adjustment stated in Company's Service Regulations may be applicable. The Company reserves the right to install facilities necessary for the measurement of power factor. The Company will not install such equipment, nor charge a Low Power Factor Adjustment if the renewable generation system is less than 20 kW AC and uses an inverter.

CONTRACT PERIOD

The Customer shall enter into a contract for service under this Rider for a minimum original term of one (1) year, and the contract shall automatically renew thereafter, except that either party may terminate the contract after one year by giving at least sixty (60) days prior notice of such termination in writing.

The Company reserves the right to terminate the Customer's contract under this Rider at any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Rider, or operates the renewable generation system and equipment in a manner which is detrimental to the Company or any of its customers. In the event of early termination of a contract under this Rider, the Customer will be required to pay the Company for the costs due to such early termination, in accordance with the Company's South Carolina Service Regulations.

Effective for service rendered on and after June 1, 2021

PSCSC Docket No. ____, Order No. ____

RIDER IRSC (SC)
INTERIM RESIDENTIAL SOLAR CHOICEAVAILABILITY (South Carolina Only)

Available to residential Customers receiving concurrent service from the Company, on a metered rate schedule, except as indicated under General Provisions. A Customer-Generator is an owner, operator, or lessee of an electric generation unit that generates or discharges electricity from a renewable energy resource, including an energy storage device configured to receive electrical charge solely from an onsite renewable energy resource. The renewable net energy metered (NEM) generation, which includes a solar photovoltaic; solar thermal; wind powered; hydroelectric; geothermal; tidal or wave energy; recycling resource; hydrogen fueled or combined heat and power derived from renewable resources; or biomass fueled generation source of energy, is installed on the Customer's side of the delivery point, for the Customer's own use, interconnected with and operated in parallel with the Company's system. The generation must be located at a single premise owned, operated, leased or otherwise controlled by the Customer. The system may either be owned by the Customer or by a lessor and leased to the Customer.

Service under this Rider is closed to new participants on and after January 1, 2022. Residential Customers served under this Rider from June 1, 2021, through and including December 31, 2021, may be served under their existing approved rate schedule until May 31, 2029. Beginning January 1, 2022, residential Customers served under this Rider prior to January 1, 2022 may elect to transfer to Residential Solar Choice Rider RSC and be served under rate schedule Residential Service, Solar Time-of-Use (R-STOU).

There is a monthly cap for service under this Rider of 1.2 MW per month. A Customer who applies after the monthly cap is reached must withdraw the application and submit it again in a subsequent month, but there is no assurance that capacity will be available.

GENERAL PROVISIONS

1. To qualify for service under this Rider, the Customer must comply with all applicable interconnection standards and must provide, in writing, the Nameplate Capacity of the Customer's installed renewable generation system. Any subsequent change to the Nameplate Capacity must be provided by Customer to Company in writing by no later than 60 days following the change.
2. To qualify for service under this Rider, a Customer must be served on an existing approved residential rate schedule (e.g. RS, RE, etc.). Customers served under this Rider may not be served under another parallel generation rider. The Nameplate Capacity of Customer's installed generation system and equipment must not exceed 20 kW AC.
3. Beginning June 1, 2029, if a Customer does not elect to be served on Schedule R-STOU, the Customer may stay on their existing approved residential rate schedule, but any volumetric price increase thereafter will be assessed through a monthly non-bypassable charge based on the Customer's Nameplate Capacity.
4. If the Customer is not the owner of the premises receiving electric service from the Company, the Company shall have the right to require that the owner of the premises give satisfactory written approval of the Customer's request for service under this Rider.
5. All environmental attributes, including but not limited to "renewable energy certificates" (RECs), "renewable energy credits" or "green tags", associated with the generation system shall be conveyed to Company. The Customer certifies that the environmental attributes have not and will not be remarketed or otherwise resold for any purpose, including another distributed energy resource standard or voluntary purchase of renewable energy certificates in South Carolina or in any other state or country for the Contract Period and any successive contract periods thereto.
6. If the electricity supplied to the Customer by the Company exceeds the electricity delivered to the grid by the Customer-Generator during a monthly billing period, the Customer-Generator shall be billed for the net electricity in kilowatt-hours (kWh) supplied by the Company plus any demand or other charges under the applicable rate schedule or riders.
7. If the electricity delivered to the grid by the Customer-Generator exceeds the electricity supplied by the Company during a monthly billing period, the Customer-Generator shall be credited for the net excess energy in kWh generated during that billing period.
8. In the event the Company determines that it is necessary to increase the capacity of facilities beyond those required to serve the Customer's electrical requirement or to install a dedicated transformer or other equipment to protect the safety and adequacy of electric service provided to other customers, the Customer shall pay the estimated cost of the required

RIDER IRSC (SC) INTERIM RESIDENTIAL SOLAR CHOICE

transformer or other equipment above the estimated cost which the Company would otherwise have normally incurred to serve the Customer's electrical requirement, in advance of receiving service under this Rider.

RATE

All provisions of the applicable schedule and other applicable riders will apply to service supplied under this Rider, except as modified herein. In addition to all charges in the applicable rate schedule for Customer's net electrical usage, the following credit will be applied to net electricity delivered to the grid by Customer's renewable generation as specified under General Provisions:

Monthly Credit for Net Excess Energy, per kWh	\$0.0270
---	----------

In addition, the following non-bypassable charge will be added:

Non-bypassable Charge per month, per kW ¹	\$0.50
--	--------

MINIMUM BILL

From June 1, 2021 through May 31, 2029, the monthly minimum bill for Customers receiving service under this Rider shall be no less than the Basic Facilities Charge from the Customer's rate schedule and riders plus, if applicable, any additional minimum bill provisions specified by the Customer's rate schedule and riders.

Beginning June 1, 2029, Customers who enrolled for service under this Rider and do not elect to be served on Schedule R-STOU will be assessed a monthly non-bypassable charge based on their Nameplate Capacity for any volumetric price increase thereafter. These Customers will also be assessed a monthly minimum bill set at \$10 more than the Basic Facilities Charge at that time. The minimum bill may be satisfied by the Basic Facilities Charge, the portion of the customer's monthly volumetric energy charges specific to customer and distribution costs (as included in Schedule R-STOU), and riders.

Bill credits for net excess energy are not included in the calculation of the minimum bill charge. Bill credits will reduce a Customer's total bill after the minimum bill charge has been applied.

METERING REQUIREMENTS

The Company will furnish, install, own and maintain a billing meter to measure the kilowatt demand delivered by the Company to the Customer, and to measure the net kWh purchased by the Customer or delivered to the Company. For renewable generation capacity of 20 kW AC or less, the billing meter will be a single, bi-directional meter which records independently the net flow of electricity in each direction through the meter, unless the Customer's overall electrical requirement merits a different meter. The Customer grants the Company the right to install, operate, and monitor special equipment to measure the Customer's generating system output, or any part thereof, and to obtain any other data necessary to determine the operating characteristics and effects of the installation. All metering shall be at a location that is readily accessible by the Company.

SAFETY, INTERCONNECTION AND INSPECTION REQUIREMENTS

This Rider is only applicable for installed renewable generation systems and equipment that complies with and meets all safety, performance, interconnection, and reliability standards established by the Commission, the National Electric Code, the National Electrical Safety Code, the Institute of Electrical and Electronic Engineers, Underwriter's Laboratories, the Federal Energy Regulatory Commission and any local governing authorities. Customer must comply with all liability insurance requirements of the Interconnection Standard.

POWER FACTOR

The Customer's renewable generation must be operated to maintain a 100% power factor, unless otherwise specified by Company. When the average monthly power factor of the power supplied by the Customer to the Company is other than 100%, the Company may correct the energy in kWh, as appropriate. The Company reserves the right to install facilities necessary for the measurement

¹ The Non-bypassable Charge is applied per kW DC for solar generation and per kW AC for non-solar generation.

Duke Energy Carolinas, LLC

Electricity No. 4
South Carolina Original Leaf No. 135RIDER IRSC (SC)
INTERIM RESIDENTIAL SOLAR CHOICE

of power factor. The Company will not install such equipment, nor make a power factor correction if the renewable generation system is less than 20 kW AC and uses an inverter.

CONTRACT PERIOD

The Customer shall enter into a contract for service under this Rider for a minimum original term of one (1) year, and the contract shall automatically renew thereafter, except that either party may terminate the contract after one year by giving at least sixty (60) days prior notice of such termination in writing.

The Company reserves the right to terminate the Customer's contract under this Rider at any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Rider, or operates the renewable generation system and equipment in a manner which is detrimental to the Company or any of its customers. In the event of early termination of a contract under this Rider, the Customer will be required to pay the Company for the costs due to such early termination, in accordance with the Company's South Carolina Service Regulations.

RESIDENTIAL SERVICE, SOLAR TIME-OF-USE
SCHEDULE R-STOU-61AVAILABILITY

This Schedule is available on a voluntary basis to individually-metered residential Customers served under Rider RSC when electric service is used for domestic purposes in and about a residential dwelling unit, including electric service used on a farm and in the preparation of the farm products for market. A residential dwelling unit served under this Schedule may be used as a boarding house, fraternity house, tourist home, or like establishment, provided such residential dwelling unit is one which ordinarily would be used as a private residence.

Service under this Schedule is not available: (1) for processing (or handling) for market of farm products produced by others; (2) for separately metered farm operations; (3) for individual motors in excess of 10 HP (in exceptional cases, motors as large as 15 HP may be served upon approval by the Engineering Department); (4) for commercial or industrial purposes; (5) for other uses not specifically provided for by the provisions herein; or (6) for resale service.

Non-fossil energy sources caused by acts of nature, such as wind or solar, are permitted as supplement to Customer's energy requirement provided Company is granted the right to install, operate, and monitor special equipment to measure Customer's load or any part thereof and to obtain any other data necessary to determine the operating characteristics and effects of the installation.

APPLICABILITY

This Schedule is applicable to all electric service of the same type supplied to Customer's premises at one point of delivery through one meter.

TYPE OF SERVICE

The types of service to which this Schedule is applicable are alternating current, 60 hertz, either single-phase 2 or 3 wires, or three-phase 4 wires, at Company's standard voltages of 240 volts or less.

RATE

I.	Basic Facilities Charge per month	\$14.63	
		Non-Winter Months March 1 – November 30	Winter Months December 1 – Last Day of February
II.	Energy Charges		
	Critical Peak energy per month, per kWh	25.322¢	25.322¢
	On-Peak energy per month, per kWh	16.165¢	16.165¢
	Off-Peak energy per month, per kWh	9.851¢	9.851¢
	Super-Off-Peak energy per month, per kWh	7.316¢	7.316¢
III.	Non-bypassable Charge per month, per kW ¹	\$0.49	
IV.	Grid Access Fee per month, per kW ¹ above 15 kW, for system sizes greater than 15 kW	\$3.95	

¹ The Non-bypassable Charge and Grid Access Fee are applied per kW DC for solar generation and per kW AC for non-solar generation.

The following customer and distribution charges are components of the energy charges defined above. These components are used in the calculation of the monthly minimum bill.

	Non-Winter Months <u>March 1 – November 30</u>	Winter Months <u>December 1 – Last Day of February</u>
Customer and Distribution Energy Charges		
On-Peak energy per month, per kWh	2.913¢	2.913¢
Off-Peak energy per month, per kWh	2.273¢	2.273¢
Super-Off-Peak energy per month, per kWh	1.899¢	1.899¢

MINIMUM BILL

There shall be a monthly minimum bill of \$30 specific to the portion of the Customer's bill related to customer and distribution costs. A minimum bill charge shall be applied when the sum of the Basic Facilities Charge, Customer and Distribution Energy Charges, and riders is less than \$30. The minimum bill charge shall be equal to the difference between \$30 and the sum of these costs.

Bill credits for net excess energy are not included in the calculation of the minimum bill charge. Bill credits will reduce a Customer's total bill after the minimum bill charge has been applied.

DETERMINATION OF ON-PEAK, OFF-PEAK, SUPER-OFF-PEAK, AND CRITICAL PEAK HOURS

	Non-Winter Months <u>March 1 – November 30</u>	Winter Months <u>December 1 – Last Day in February</u>
On-Peak Period Hours	6:00 p.m. – 9:00 p.m. Monday – Friday	6:00 a.m. – 9:00 a.m. 6:00 p.m. – 9:00 p.m. Monday – Friday
Off-Peak Period Hours	All other non-On-Peak and non-Super-Off-Peak hours All non-Super-Off-Peak hours for the following holidays shall be considered Off-Peak: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day after Thanksgiving Day and Christmas Day. When one of the above holidays falls on a Saturday, the Friday before the holiday will be considered Off-Peak or Super-Off-Peak; when the holiday falls on a Sunday, the following Monday will be considered Off-Peak or Super-Off-Peak.	
Super-Off-Peak Hours	12:00 a.m. – 6:00 a.m. during Non-Winter Months of March 1 – November 30	

The Company will call up to 20 Critical Peak Pricing (CPP) Days per calendar year. The number of Critical Peak Pricing Days permitted annually may be exceeded in the event of a system emergency that is expected to place the Company's ability to provide reliable service to customers at risk.

During Company-designated Critical Peak Pricing Days, the On-Peak Hours will become Critical Peak Hours. The Company has discretion to shift the Critical Peak Hours one hour earlier or later than the regular On-Peak Hours to provide flexibility for system operations; however, the total number of Critical Peak Hours per day will remain the same as the number of On-Peak Hours that would have otherwise occurred. Any shift in Critical Peak Hours will be reflected in the Customer notification.

The designation of Critical Peak Pricing Days will be set daily and will be posted on the Company website as the official Customer notification. Additionally, the designation of CPP may be communicated to Customers by other

Duke Energy Progress, LLC
(South Carolina Only)

SC R-STOU-61

means.

The Company will notify Customer by 4:00 p.m. on the prior day for Critical Peak Pricing Days. In the case of a system emergency that is expected to place the Company's ability to provide reliable service to customers at risk, the notification may occur no later than 30 minutes prior to the Critical Peak period.

RATE ADJUSTMENTS

Fuel, variable environmental, avoided capacity, and DERP avoided costs as set forth in Rider No. 39, decremental costs as set forth in the Excess Deferred Income Tax Rider EDIT, and demand side management and energy efficiency costs as set forth in Rider DSM/EE are included in the above charges and are subject to adjustment by order of the Public Service Commission of South Carolina. The rates applicable under Rider DSM/EE are provisional and are therefore subject to true-up with interest upon further review by the Office of Regulatory Staff and the Public Service Commission of South Carolina.

Also as set forth in Rider No. 39, the Distributed Energy Resource Program Fixed Monthly Rider 39 Charge shall be added to the monthly bill based upon the revenue classification for each customer as outlined in the rider.

Residential Classification	\$1.00 per month
----------------------------	------------------

SALES TAX AND MUNICIPAL FEES

To the above charges will be added any applicable South Carolina sales tax, and for those customers within any municipal or other local governmental jurisdiction, an appropriate amount to reflect any franchise fee, business license tax, or similar percentage fee or tax, or charge in lieu thereof imposed by such entity.

PAYMENT

Bills are due when rendered and are payable within 25 days from the date of the bill. If any bill is not so paid, the Company has the right to suspend service in accordance with its Service Regulations. In addition, any bill not paid on or before the expiration of twenty-five (25) days from the date of the bill is subject to an additional charge of 1.5% per month as provided in Rule 103-339(3) of the Rules and Regulations of the South Carolina Public Service Commission. The additional charge of 1.5% is not applicable when Customer has had no previous arrears in the preceding 12 months and has been a customer at this location for a continuous 12-month period.

CONTRACT PERIOD

The original term of this contract shall be one (1) year, and thereafter, until terminated by either party on thirty (30) days written notice.

GENERAL

Service under this Schedule is subject to the Company's Service Regulations, and any changes therein, substitutions thereof, or additions thereto lawfully made.

SCHEDULE R-STOU (SC)
RESIDENTIAL SERVICE, SOLAR TIME-OF-USEAVAILABILITY (South Carolina Only)

Available on a voluntary basis to individually-metered residential Customers served under Rider RSC in residences, condominiums, manufactured homes, or apartments which provide independent and permanent facilities for living, sleeping, eating, cooking, and sanitation.

Power delivered under this schedule shall not be used for resale or exchange or in parallel with other electric power or as a substitute for power contracted for or which may be contracted for, under any other schedule of the Company, except at the option of the Company, or for service in conjunction with Rider RSC, under special terms and conditions expressed in writing in the contract with the Customer.

TYPE OF SERVICE

The Company will furnish 60 Hertz service through one meter, at one delivery point, at one of the following approximate voltages, where available:

- Single-phase, 120/240 volts; or
- 3-phase, 208Y/120 volts; or other available voltages at the Company's option.

Motors in excess of 2 H.P., frequently started, or arranged for automatic control, must be of a type to take the minimum starting current and must be equipped with controlling devices approved by the Company.

Three-phase service will be supplied, if available. Where three-phase and single-phase service is supplied through the same meter, it will be billed on the rate below. Where three-phase service is supplied through a separate meter, it will be billed on the applicable General Service schedule.

RATE

I.	Basic Facilities Charge per month	\$13.09	
		<u>Non-Winter Months</u> <u>March 1 – November 30</u>	<u>Winter Months</u> <u>December 1 – Last Day</u> <u>of February</u>
II.	Energy Charges		
	Critical Peak energy per month, per kWh	25¢	25¢
	On-Peak energy per month, per kWh	15.1760¢	15.1760¢
	Off-Peak energy per month, per kWh	8.7586¢	8.7586¢
	Super-Off-Peak energy per month, per kWh	6.0268¢	6.0268¢
III.	Non-bypassable Charge per month, per kW ¹	\$0.42	
IV.	Grid Access Fee per month, per kW ¹ above 15 kW, for system sizes greater than 15 kW	\$5.86	

The following customer and distribution charges are components of the energy charges defined above. These components are used in the calculation of the monthly minimum bill.

	<u>Non-Winter Months</u> <u>March 1 – November 30</u>	<u>Winter Months</u> <u>December 1 – Last Day</u> <u>of February</u>
Customer and Distribution Energy Charges		
On-Peak energy per month, per kWh	3.6569¢	3.6569¢
Off-Peak energy per month, per kWh	2.4882¢	2.4882¢
Super-Off-Peak energy per month, per kWh	1.8066¢	1.8066¢

¹ The Non-bypassable Charge and Grid Access Fee are applied per kW DC for solar generation and per kW AC for non-solar generation.

SCHEDULE R-STOU (SC)
RESIDENTIAL SERVICE, SOLAR TIME-OF-USERIDERS

The following Riders are applicable to service supplied under this schedule. The currently approved cents/kWh rider increment or decrement must be added to the cents/kWh rates shown above to determine the monthly bill.

Leaf No. 62 Energy Efficiency Rider
Leaf No. 67 EDIT-1 Rider

ADJUSTMENTS FOR FUEL, VARIABLE ENVIRONMENTAL, AVOIDED CAPACITY AND DISTRIBUTED ENERGY RESOURCE PROGRAM COSTS

The cost of fuel, the variable environmental cost, avoided capacity cost of the Public Utilities Regulatory Policies Act of 1978 ("PURPA") purchased power, and Distributed Energy Resource Program ("DERP") cost is incorporated as a part of, and will apply to all service supplied under, this Schedule. Additionally, the Distributed Energy Resource Program Fixed Monthly Leaf 50 C charge shall be added to the monthly bill for each agreement for service under this schedule as outlined on Leaf 50 C.

DETERMINATION OF ON-PEAK, OFF-PEAK, SUPER-OFF-PEAK, AND CRITICAL PEAK HOURS

	Non-Winter Months <u>March 1 – November 30</u>	Winter Months <u>December 1 – Last Day in February</u>
On-Peak Period Hours	6:00 p.m. – 9:00 p.m. Monday – Friday	6:00 a.m. – 9:00 a.m. 6:00 p.m. – 9:00 p.m. Monday – Friday
Off-Peak Period Hours	All other non-On-Peak and non-Super-Off-Peak hours All non-Super-Off-Peak hours for the following holidays shall be considered Off-Peak: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day after Thanksgiving Day and Christmas Day.	
Super-Off-Peak Hours	12:00 a.m. – 6:00 a.m. during Non-Winter Months of March 1 – November 30	

The Company will call up to 20 Critical Peak Pricing (CPP) Days per calendar year. The number of Critical Peak Pricing Days permitted annually may be exceeded in the event of a system emergency that is expected to place the Company's ability to provide reliable service to customers at risk.

During Company-designated Critical Peak Pricing Days, the On-Peak Hours will become Critical Peak Hours. The Company has discretion to shift the Critical Peak Hours one hour earlier or later than the regular On-Peak Hours to provide flexibility for system operations; however, the total number of Critical Peak Hours per day will remain the same as the number of On-Peak Hours that would have otherwise occurred. Any shift in Critical Peak Hours will be reflected in the Customer notification.

The designation of Critical Peak Pricing Days will be set daily and will be posted on the Company website as the official Customer notification. Additionally, the designation of CPP may be communicated to Customers by other means.

The Company will notify Customer by 4:00 p.m. on the prior day for Critical Peak Pricing Days. In the case of a system emergency that is expected to place the Company's ability to provide reliable service to customers at risk, the notification may occur no later than 30 minutes prior to the Critical Peak period.

DEFINITION OF "MONTH"

The term "month" as used in this Schedule means the period intervening between meter readings for the purposes of monthly billing. Readings are taken each month at intervals of approximately thirty (30) days.

SCHEDULE R-STOU (SC)
RESIDENTIAL SERVICE, SOLAR TIME-OF-USEMINIMUM BILL

There shall be a monthly minimum bill of \$30 specific to the portion of the Customer's bill related to customer and distribution costs. A minimum bill charge shall be applied when the sum of the Basic Facilities Charge, Customer and Distribution Energy Charges, and riders is less than \$30. The minimum bill charge shall be equal to the difference between \$30 and the sum of these costs.

Bill credits for net excess energy are not included in the calculation of the minimum bill charge. Bill credits will reduce a Customer's total bill after the minimum bill charge has been applied.

SALES TAX AND MUNICIPAL FEES

Any applicable sales tax, municipal service agreement fee, business license fee or other fee assessed by or remitted to a state or local governmental authority will be added to the charges determined.

PAYMENT

Bills under this Schedule are due and payable on the date of the bill at the office of the Company. Bills are past due and delinquent on the twenty-fifth day after the date of the bill. In addition, all bills not paid by the twenty-fifth day after the date of the bill shall be subject to a one and one-half percent (1 1/2%) late payment charge on the unpaid amount. This late payment charge shall be rendered on the following month's bill and it shall become part of and be due and payable with the bill on which it is rendered.

CONTRACT PERIOD

The original term of this contract shall be one (1) year, and thereafter, until terminated by either party on thirty (30) days written notice.

RESIDENTIAL SOLAR CHOICE
RIDER RSC-1AVAILABILITY

Available to residential Customers receiving concurrent service from the Company, on a metered rate schedule, except as indicated under General Provisions. A Customer-Generator is an owner, operator, or lessee of an electric generation unit that generates or discharges electricity from a renewable energy resource, including an energy storage device configured to receive electrical charge solely from an onsite renewable energy resource. The renewable net energy metered (NEM) generation, which includes a solar photovoltaic; solar thermal; wind powered; hydroelectric; geothermal; tidal or wave energy; recycling resource; hydrogen fueled or combined heat and power derived from renewable resources; or biomass fueled generation source of energy, is installed on the Customer's side of the delivery point, for the Customer's own use, interconnected with and operated in parallel with the Company's system. The generation must be located at a single premise owned, operated, leased or otherwise controlled by the Customer. The system may either be owned by the Customer or by a lessor and leased to the Customer.

Customers receiving service under this Rider will be served under rate schedule Residential Service, Solar Time-of-Use (R-STOU).

GENERAL PROVISIONS

1. To qualify for service under this Rider, the Customer must comply with all applicable interconnection standards and must provide, in writing, the Nameplate Capacity of the Customer's installed renewable generation system. Any subsequent change to the Nameplate Capacity must be provided by Customer to Company in writing by no later than 60 days following the change.
2. To qualify for service under this Rider, Customers must be served on Schedule R-STOU. Customers served under this Rider may not be served under another parallel generation rider. The Nameplate Capacity of Customer's installed generation system and equipment must not exceed 20 kW AC.
3. If the Customer is not the owner of the premises receiving electric service from the Company, the Company shall have the right to require that the owner of the premises give satisfactory written approval of the Customer's request for service under this Rider.
4. All environmental attributes, including but not limited to "renewable energy certificates" (RECs), "renewable energy credits" or "green tags", associated with the generation system shall be conveyed to the Company. The Customer certifies that the environmental attributes have not and will not be remarketed or otherwise resold for any purpose, including another distributed energy resource standard or voluntary purchase of renewable energy certificates in South Carolina or in any other state or country for the Contract Period and any successive contract periods thereto.
5. If the electricity delivered to the grid by the Customer-Generator exceeds the electricity supplied by the Company during a monthly billing period for each TOU period, the Customer-Generator shall be credited for the excess kilowatt-hours (kWh) generated during that TOU period according to the monthly credit for exported energy rate listed below.
6. If the electricity supplied to the Customer by the Company exceeds the electricity delivered to the grid by the Customer-Generator during a monthly billing period for each TOU period, the Customer-Generator shall be billed for the net electricity in kWh supplied by the Company plus any demand or other charges under the applicable rate schedule or riders.
7. Electricity supplied to the Customer by the Company and electricity delivered to the grid by the Customer-Generator will be netted within each TOU pricing period, and the Customer will receive credits for any net excess energy in kWh generated for that pricing period as described above. Electricity delivered to the grid

by the Customer-Generator during Critical Peak Pricing (CPP) hours will be netted against electricity supplied to the Customer by the Company during On-Peak hours rather than CPP hours.

8. A non-bypassable charge will be assessed based on the Customer's Nameplate Capacity in kW DC for solar generation and kW AC for non-solar generation.
9. In the event the Company determines that it is necessary to increase the capacity of facilities beyond those required to serve the Customer's electrical requirement or to install a dedicated transformer or other equipment to protect the safety and adequacy of electric service provided to other customers, the Customer shall pay the estimated cost of the required transformer or other equipment above the estimated cost which the Company would otherwise have normally incurred to serve the Customer's electrical requirement, in advance of receiving service under this Rider.

RATE

All provisions of the applicable schedule and other applicable riders will apply to service supplied under this Rider, except as modified herein. In addition to all charges in the applicable rate schedule for Customer's net electrical usage, the following credit will be applied to net electricity delivered to the grid by Customer's renewable generation as specified under General Provisions:

Monthly Credit for Net Excess Energy, per kWh \$0.0230

MINIMUM BILL

The monthly minimum bill for Customers receiving service under this Rider shall be no less than the Basic Facilities Charge from the Customer's rate schedule and riders plus, if applicable, any additional minimum bill provisions specified in the Customer's rate schedule and riders.

Bill credits for net excess energy are not included in the calculation of the minimum bill charge. Bill credits will reduce a Customer's total bill after the minimum bill charge has been applied.

METERING REQUIREMENTS

Company will furnish, install, own and maintain a billing meter to measure the kilowatt demand delivered by Company to Customer, and to measure the net kWh purchased by Customer or delivered to Company. For renewable generation capacity of 20 kW AC or less, the billing meter will be a single, bi-directional meter which records independently the net flow of electricity in each direction through the meter, unless Customer's overall electrical requirement merits a different meter. The Customer grants the Company the right to install, operate, and monitor special equipment to measure the Customer's generating system output, or any part thereof, and to obtain any other data necessary to determine the operating characteristics and effects of the installation. All metering shall be at a location that is readily accessible by the Company.

SAFETY, INTERCONNECTION AND INSPECTION REQUIREMENTS

This Rider is only applicable for installed renewable generation systems and equipment that complies with and meets all safety, performance, interconnection, and reliability standards established by the Commission, the National Electric Code, the National Electrical Safety Code, the Institute of Electrical and Electronic Engineers, Underwriter's Laboratories, the Federal Energy Regulatory Commission and any local governing authorities. Customer must comply with all liability insurance requirements of the Interconnection Standard.

POWER FACTOR

The Customer's renewable generation must be operated to maintain a 100% power factor, unless otherwise specified by Company. When the average monthly power factor of the power supplied by the Customer to the Company is other than 100%, the Low Power Factor Adjustment stated in Company's Service Regulations may be applicable. The Company reserves the right to install facilities necessary for the measurement of power factor. The Company

will not install such equipment, nor charge a Low Power Factor Adjustment if the renewable generation system is less than 20 kW AC and uses an inverter.

CONTRACT PERIOD

The Customer shall enter into a contract for service under this Rider for a minimum original term of one (1) year, and the contract shall automatically renew thereafter, except that either party may terminate the contract after one year by giving at least sixty (60) days prior notice of such termination in writing.

The Company reserves the right to terminate the Customer's contract under this Rider at any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Rider, or operates the renewable generation system and equipment in a manner which is detrimental to the Company or any of its customers. In the event of early termination of a contract under this Rider, the Customer will be required to pay the Company for the costs due to such early termination, in accordance with the Company's South Carolina Service Regulations.

Effective for service rendered on and after January 1, 2022
PSCSC Docket No. ____, Order No. ____

RIDER RSC (SC)
RESIDENTIAL SOLAR CHOICEAVAILABILITY (South Carolina Only)

Available to residential Customers receiving concurrent service from the Company, on a metered rate schedule, except as indicated under General Provisions. A Customer-Generator is an owner, operator, or lessee of an electric generation unit that generates or discharges electricity from a renewable energy resource, including an energy storage device configured to receive electrical charge solely from an onsite renewable energy resource. The renewable net energy metered (NEM) generation, which includes a solar photovoltaic; solar thermal; wind powered; hydroelectric; geothermal; tidal or wave energy; recycling resource; hydrogen fueled or combined heat and power derived from renewable resources; or biomass fueled generation source of energy, is installed on the Customer's side of the delivery point, for the Customer's own use, interconnected with and operated in parallel with the Company's system. The generation must be located at a single premise owned, operated, leased or otherwise controlled by the Customer. The system may either be owned by the Customer or by a lessor and leased to the Customer.

Customers receiving service under this Rider will be served under rate schedule Residential Service, Solar Time-of-Use (R-STOU).

GENERAL PROVISIONS

1. To qualify for service under this Rider, the Customer must comply with all applicable interconnection standards and must provide, in writing, the Nameplate Capacity of the Customer's installed renewable generation system. Any subsequent change to the Nameplate Capacity must be provided by Customer to Company in writing by no later than 60 days following the change.
2. To qualify for service under this Rider, Customers must be served on Schedule R-STOU. Customers served under this Rider may not be served under another parallel generation rider. The Nameplate Capacity of Customer's installed generation system and equipment must not exceed 20 kW AC.
3. If the Customer is not the owner of the premises receiving electric service from the Company, the Company shall have the right to require that the owner of the premises give satisfactory written approval of the Customer's request for service under this Rider.
4. All environmental attributes, including but not limited to "renewable energy certificates" (RECs), "renewable energy credits" or "green tags", associated with the generation system shall be conveyed to the Company. The Customer certifies that the environmental attributes have not and will not be remarketed or otherwise resold for any purpose, including another distributed energy resource standard or voluntary purchase of renewable energy certificates in South Carolina or in any other state or country for the Contract Period and any successive contract periods thereto.
5. If the electricity delivered to the grid by the Customer-Generator exceeds the electricity supplied by the Company during a monthly billing period for each TOU period, the Customer-Generator shall be credited for the excess kilowatt-hours (kWh) generated during that TOU period according to the monthly credit for exported energy rate listed below.
6. If the electricity supplied to the Customer by the Company exceeds the electricity delivered to the grid by the Customer-Generator during a monthly billing period for each TOU period, the Customer-Generator shall be billed for the net electricity in kWh supplied by the Company plus any demand or other charges under the applicable rate schedule or riders.
7. Electricity supplied to the Customer by the Company and electricity delivered to the grid by the Customer-Generator will be netted within each TOU pricing period, and the Customer will receive credits for any net excess energy in kWh generated for that pricing period as described above. Electricity delivered to the grid by the Customer-Generator during Critical Peak Pricing (CPP) hours will be netted against electricity supplied to the Customer by the Company during On-Peak hours rather than CPP hours.
8. A non-bypassable charge will be assessed based on the Customer's Nameplate Capacity in kW DC for solar generation and kW AC for non-solar generation.
9. In the event the Company determines that it is necessary to increase the capacity of facilities beyond those required to serve the Customer's electrical requirement or to install a dedicated transformer or other equipment to protect the safety and adequacy of electric service provided to other customers, the Customer shall pay the estimated cost of the required

RIDER RSC (SC)
RESIDENTIAL SOLAR CHOICE

transformer or other equipment above the estimated cost which the Company would otherwise have normally incurred to serve the Customer's electrical requirement, in advance of receiving service under this Rider.

RATE

All provisions of the applicable schedule and other applicable riders will apply to service supplied under this Rider, except as modified herein. In addition to all charges in the applicable rate schedule for Customer's net electrical usage, the following credit will be applied to net electricity delivered to the grid by Customer's renewable generation as specified under General Provisions:

Monthly Credit for Net Excess Energy, per kWh	\$0.0270
---	----------

MINIMUM BILL

The monthly minimum bill for Customers receiving service under this Rider shall be no less than the Basic Facilities Charge from the Customer's rate schedule and riders plus, if applicable, any additional minimum bill provisions specified in the Customer's rate schedule and riders.

Bill credits for net excess energy are not included in the calculation of the minimum bill charge. Bill credits will reduce a Customer's total bill after the minimum bill charge has been applied.

METERING REQUIREMENTS

Company will furnish, install, own and maintain a billing meter to measure the kilowatt demand delivered by Company to Customer, and to measure the net kWh purchased by Customer or delivered to Company. For renewable generation capacity of 20 kW AC or less, the billing meter will be a single, bi-directional meter which records independently the net flow of electricity in each direction through the meter, unless Customer's overall electrical requirement merits a different meter. The Customer grants the Company the right to install, operate, and monitor special equipment to measure the Customer's generating system output, or any part thereof, and to obtain any other data necessary to determine the operating characteristics and effects of the installation. All metering shall be at a location that is readily accessible by the Company.

SAFETY, INTERCONNECTION AND INSPECTION REQUIREMENTS

This Rider is only applicable for installed renewable generation systems and equipment that complies with and meets all safety, performance, interconnection, and reliability standards established by the Commission, the National Electric Code, the National Electrical Safety Code, the Institute of Electrical and Electronic Engineers, Underwriter's Laboratories, the Federal Energy Regulatory Commission and any local governing authorities. Customer must comply with all liability insurance requirements of the Interconnection Standard.

POWER FACTOR

The Customer's renewable generation must be operated to maintain a 100% power factor, unless otherwise specified by Company. When the average monthly power factor of the power supplied by the Customer to the Company is other than 100%, the Company may correct the energy in kWh, as appropriate. The Company reserves the right to install facilities necessary for the measurement of power factor. The Company will not install such equipment, nor make a power factor correction if the renewable generation system is less than 20 kW AC and uses an inverter.

CONTRACT PERIOD

The Customer shall enter into a contract for service under this Rider for a minimum original term of one (1) year, and the contract shall automatically renew thereafter, except that either party may terminate the contract after one year by giving at least sixty (60) days prior notice of such termination in writing.

The Company reserves the right to terminate the Customer's contract under this Rider at any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Rider, or operates the renewable generation system and equipment in a manner which is detrimental to the Company or any of its customers. In the event of early termination

Duke Energy Carolinas, LLC

Electricity No. 4
South Carolina Original Leaf No. 136

**RIDER RSC (SC)
RESIDENTIAL SOLAR CHOICE**

of a contract under this Rider, the Customer will be required to pay the Company for the costs due to such early termination, in accordance with the Company's South Carolina Service Regulations.

NON-RESIDENTIAL SOLAR CHOICE
RIDER NSC-1AVAILABILITY

Available to non-residential Customers receiving concurrent service from the Company, on a metered rate schedule, except as indicated under General Provisions. A Customer-Generator is an owner, operator, or lessee of an electric generation unit that generates or discharges electricity from a renewable energy resource, including an energy storage device configured to receive electrical charge solely from an onsite renewable energy resource. The renewable net energy metered (NEM) generation, which includes a solar photovoltaic; solar thermal; wind powered; hydroelectric; geothermal; tidal or wave energy; recycling resource; hydrogen fueled or combined heat and power derived from renewable resources; or biomass fueled generation source of energy, is installed on the Customer's side of the delivery point, for the Customer's own use, interconnected with and operated in parallel with the Company's system. The generation must be located at a single premise owned, operated, leased or otherwise controlled by the Customer. The system may either be owned by the Customer or by a lessor and leased to the Customer.

Customers applying for service under this Rider will be served under their existing approved general service or industrial rate schedule.

GENERAL PROVISIONS

1. To qualify for service under this Rider, the Customer must comply with all applicable interconnection standards and must provide, in writing, the Nameplate Capacity of the Customer's installed renewable generation system. Any subsequent change to the Nameplate Capacity must be provided by Customer to Company in writing by no later than 60 days following the change.
2. To qualify for service under this Rider, Customers must be served on an approved general service rate schedule, but must not be served on Schedules SGS-TES, TSS, TFS, LGS-RTP, LGS-CUR-TOU, CSG, CSE, GS, SFLS, SGS-TOU-CLR, or another parallel generation rider. The Nameplate Capacity of Customer's installed renewable generation system and equipment must not exceed the lesser of 1,000 kW AC or 100% of the Customer's contract demand which shall approximate the Customer's maximum expected demand.
3. If the Customer is not the owner of the premises receiving electric service from the Company, the Company shall have the right to require that the owner of the premises give satisfactory written approval of the Customer's request for service under this Rider.
4. All environmental attributes, including but not limited to "renewable energy certificates" (RECs), "renewable energy credits" or "green tags", associated with the generation system shall be conveyed to the Company. The Customer certifies that the environmental attributes have not and will not be remarketed or otherwise resold for any purpose, including another distributed energy resource standard or voluntary purchase of renewable energy certificates in South Carolina or in any other state or country for the Contract Period and any successive contract periods thereto.
5. If the electricity supplied to the Customer by the Company exceeds the electricity delivered to the grid by the Customer-Generator during a monthly billing period, the Customer-Generator shall be billed for the net electricity in kilowatt-hours (kWh) supplied by the Company plus any demand or other charges under the applicable rate schedule or riders.
6. If the electricity delivered to the grid by the Customer-Generator exceeds the electricity supplied by the Company during a monthly billing period, the Customer-Generator shall be credited for the net excess energy in kWh generated during that billing period.

APPLICATION EXHIBIT 7

7. In the event the Company determines that it is necessary to increase the capacity of facilities beyond those required to serve the Customer's electrical requirement or to install a dedicated transformer or other equipment to protect the safety and adequacy of electric service provided to other customers, the Customer shall pay the estimated cost of the required transformer or other equipment above the estimated cost which the Company would otherwise have normally incurred to serve the Customer's electrical requirement, in advance of receiving service under this Rider.

RATE

All provisions of the applicable schedule and other applicable riders will apply to service supplied under this Rider, except as modified herein. In addition to all charges in the applicable rate schedule for Customer's net electrical usage, the following credit will be applied to net electricity delivered to the grid by Customer's renewable generation as specified under General Provisions:

Monthly Credit for Net Excess Energy, per kWh \$0.0230

METERING REQUIREMENTS

Company will furnish, install, own and maintain a billing meter to measure the kilowatt demand delivered by Company to Customer, and to measure the net kWh purchased by Customer or delivered to Company. For renewable generation capacity of 20 kW AC or less, the billing meter will be a single, bi-directional meter which records independently the net flow of electricity in each direction through the meter, unless Customer's overall electrical requirement merits a different meter. For larger renewable generation capacities, the Company may elect to require two meters with 15-minute interval capabilities to separately record Customer's electrical consumption and the total generator output, which will be electronically netted for billing. The Customer grants the Company the right to install, operate, and monitor special equipment to measure the Customer's generating system output, or any part thereof, and to obtain any other data necessary to determine the operating characteristics and effects of the installation. All metering shall be at a location that is readily accessible by the Company.

SAFETY, INTERCONNECTION AND INSPECTION REQUIREMENTS

This Rider is only applicable for installed renewable generation systems and equipment that complies with and meets all safety, performance, interconnection, and reliability standards established by the Commission, the National Electric Code, the National Electrical Safety Code, the Institute of Electrical and Electronic Engineers, Underwriter's Laboratories, the Federal Energy Regulatory Commission and any local governing authorities. Customer must comply with all liability insurance requirements of the Interconnection Standard.

POWER FACTOR

The Customer's renewable generation must be operated to maintain a 100% power factor, unless otherwise specified by Company. When the average monthly power factor of the power supplied by the Customer to the Company is other than 100%, the Low Power Factor Adjustment stated in the Company's Service Regulations may be applicable. The Company reserves the right to install facilities necessary for the measurement of power factor. The Company will not install such equipment, nor charge a Low Power Factor Adjustment if the renewable generation system is less than 20 kW AC and uses an inverter.

CONTRACT PERIOD

The Customer shall enter into a contract for service under this Rider for a minimum original term of one (1) year, and the contract shall automatically renew thereafter, except that either party may terminate the contract after one year by giving at least sixty (60) days prior notice of such termination in writing.

The Company reserves the right to terminate the Customer's contract under this Rider at any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Rider, or operates the renewable generation system and equipment in a manner which is detrimental to the Company or any of its customers. In the event of early termination of a contract under this Rider, the Customer will be required to pay the Company for the costs due to such early termination, in accordance with the Company's South Carolina Service Regulations.

Effective for service rendered on and after June 1, 2021
PSCSC Docket No. _____, Order No. _____

RIDER NSC (SC)
NON-RESIDENTIAL SOLAR CHOICEAVAILABILITY (South Carolina Only)

Available to non-residential Customers receiving concurrent service from the Company, on a metered rate schedule, except as indicated under General Provisions. A Customer-Generator is an owner, operator, or lessee of an electric generation unit that generates or discharges electricity from a renewable energy resource, including an energy storage device configured to receive electrical charge solely from an onsite renewable energy resource. The renewable net energy metered (NEM) generation, which includes a solar photovoltaic; solar thermal; wind powered; hydroelectric; geothermal; tidal or wave energy; recycling resource; hydrogen fueled or combined heat and power derived from renewable resources; or biomass fueled generation source of energy, is installed on the Customer's side of the delivery point, for the Customer's own use, interconnected with and operated in parallel with the Company's system. The generation must be located at a single premise owned, operated, leased or otherwise controlled by the Customer. The system may either be owned by the Customer or by a lessor and leased to the Customer.

Customers applying for service under this Rider will be served under their existing approved general service or industrial rate schedule.

GENERAL PROVISIONS

1. To qualify for service under this Rider, the Customer must comply with all applicable interconnection standards and must provide, in writing, the Nameplate Capacity of the Customer's installed renewable generation system. Any subsequent change to the Nameplate Capacity must be provided by Customer to Company in writing by no later than 60 days following the change.
2. To qualify for service under this Rider, Customers must be served on an approved general service or industrial rate schedule, but must not be served on Schedule TS, BC, HP, PG or MP or another parallel generation rider. The Nameplate Capacity of Customer's installed renewable generation system and equipment must not exceed the lesser of 1,000 kW AC or 100% of the Customer's contract demand which shall approximate the Customer's maximum expected demand.
3. If the Customer is not the owner of the premises receiving electric service from the Company, the Company shall have the right to require that the owner of the premises give satisfactory written approval of the Customer's request for service under this Rider.
4. All environmental attributes, including but not limited to "renewable energy certificates" (RECs), "renewable energy credits" or "green tags", associated with the generation system shall be conveyed to the Company. The Customer certifies that the environmental attributes have not and will not be remarketed or otherwise resold for any purpose, including another distributed energy resource standard or voluntary purchase of renewable energy certificates in South Carolina or in any other state or country for the Contract Period and any successive contract periods thereto.
5. If the electricity supplied to the Customer by the Company exceeds the electricity delivered to the grid by the Customer-Generator during a monthly billing period, the Customer-Generator shall be billed for the net electricity in kilowatt-hours (kWh) supplied by the Company plus any demand or other charges under the applicable rate schedule or riders.
6. If the electricity delivered to the grid by the Customer-Generator exceeds the electricity supplied by the Company during a monthly billing period, the Customer-Generator shall be credited for the net excess energy in kWh generated during that billing period.
7. In the event the Company determines that it is necessary to increase the capacity of facilities beyond those required to serve the Customer's electrical requirement or to install a dedicated transformer or other equipment to protect the safety and adequacy of electric service provided to other customers, the Customer shall pay the estimated cost of the required transformer or other equipment above the estimated cost which the Company would otherwise have normally incurred to serve the Customer's electrical requirement, in advance of receiving service under this Rider.

RIDER NSC (SC)
NON-RESIDENTIAL SOLAR CHOICERATE

All provisions of the applicable schedule and other applicable riders will apply to service supplied under this Rider, except as modified herein. In addition to all charges in the applicable rate schedule for Customer's net electrical usage, the following credit will be applied to net electricity delivered to the grid by Customer's renewable generation as specified under General Provisions:

Monthly Credit for Net Excess Energy, per kWh	\$0.0270
---	----------

METERING REQUIREMENTS

Company will furnish, install, own and maintain a billing meter to measure the kilowatt demand delivered by Company to Customer, and to measure the net kWh purchased by Customer or delivered to Company. For renewable generation capacity of 20 kW AC or less, the billing meter will be a single, bi-directional meter which records independently the net flow of electricity in each direction through the meter, unless Customer's overall electrical requirement merits a different meter. For larger renewable generation capacities, the Company may elect to require two meters with 30-minute interval capabilities to separately record Customer's electrical consumption and the total generator output, which will be electronically netted for billing. The Customer grants the Company the right to install, operate, and monitor special equipment to measure the Customer's generating system output, or any part thereof, and to obtain any other data necessary to determine the operating characteristics and effects of the installation. All metering shall be at a location that is readily accessible by the Company.

SAFETY, INTERCONNECTION AND INSPECTION REQUIREMENTS

This Rider is only applicable for installed renewable generation systems and equipment that complies with and meets all safety, performance, interconnection, and reliability standards established by the Commission, the National Electric Code, the National Electrical Safety Code, the Institute of Electrical and Electronic Engineers, Underwriter's Laboratories, the Federal Energy Regulatory Commission and any local governing authorities. Customer must comply with all liability insurance requirements of the Interconnection Standard.

POWER FACTOR

The Customer's renewable generation must be operated to maintain a 100% power factor, unless otherwise specified by Company. When the average monthly power factor of the power supplied by the Customer to the Company is other than 100%, the Company may correct the energy in kWh, as appropriate. The Company reserves the right to install facilities necessary for the measurement of power factor. The Company will not install such equipment, nor make a power factor correction if the renewable generation system is less than 20 kW AC and uses an inverter.

CONTRACT PERIOD

The Customer shall enter into a contract for service under this Rider for a minimum original term of one (1) year, and the contract shall automatically renew thereafter, except that either party may terminate the contract after one year by giving at least sixty (60) days prior notice of such termination in writing.

The Company reserves the right to terminate the Customer's contract under this Rider at any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Rider, or operates the renewable generation system and equipment in a manner which is detrimental to the Company or any of its customers. In the event of early termination of a contract under this Rider, the Customer will be required to pay the Company for the costs due to such early termination, in accordance with the Company's South Carolina Service Regulations.